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SITE STUDY PLAN
SAAD OIL COMPANY
NASHVILLE, TN

PROJECT ELEMENT: NSP
EPA PROJECT NUMBER: 82-

I. INTRODUCTION

An investigation will be conducted by Ecology and Environment, Inc. (E&E), Region IV Field Investigation Team of the Saad Oil Company in Nashville, TN. during the week of August 16-20, 1982. This investigation is at the request of the U.S. Environmental Protection Agency, Air and Waste Management Division as specified in TDD F4-8207-12. This study is a continuation of the study performed under TDD 8205-01 in which samples were collected from the Saad property, the adjacent L and N Railroad and the springs on the Croft farm.

II. SITE DESCRIPTION

The history and description of the Saad site was presented in the study plan submitted under the original TDD F4-8205-01 and will not be repeated here. During the original investigation a reconnaissance was made of the site area to determine the sampling points required to isolate the contaminates on the Saad site. These sampling points, as shown in Figure 2, will be sampled during this investigation.

III. OBJECTIVE

The objective of this investigation is to determine, through the installation of monitoring wells, if waste materials disposed of on the Saad property are entering and contaminating the groundwater. Samples will also be collected during this study to isolate the contaminates on the Saad property.

IV. SCOPE

This investigation will include the collection and analyses of water samples from seven monitoring wells to be drilled on the Saad property, on property owned by the L and N Railroad and on the Croft farm which is downgradient of the disposal site. Surface soil samples will also be collected from roadside drainage ditches to isolate the contaminates on the Saad property.

V. METHODOLOGY

All sample collection, sample preservation and sample management procedures used during this study will be conducted in accordance with Water Surveillance Branch Standard Operating Procedures and Quality Assurance Manual (Draft) of EPA Region IV ESB, dated August 29, 1980. All analyses of the samples by the EPA Region IV, Laboratory Services Branch will be in accordance with the Laboratory Services Branch Operations and Quality Control Manual, April, 1982. Samples sent to the EPA contract labs will be analyzed according to the protocol set forth under the existing contract.

VI. FIELD STUDIES

1. Sampling Locations

The approximate locations of the monitoring wells as shown in Figure 1. One water sample (SS-MW-1) will be collected from a well drilled on the Saad property in the area of the disposal pits. It is not anticipated that this sample will have to be considered "hot" as subsurface samples previously collected from this area did not contain concentrations of contaminates high enough to be considered "hot". Three samples (SS-MW-2, SS-MW-3, SS-MW-4) will be collected from the L and N Railroad property in the area between the wastewater treatment system and the railroad track adjacent the Saad property. Three additional monitoring wells (SS-MW-5, SS-MW-6, SS-MW-7) will be installed on the Croft farm. Two of these wells will be located in areas which are believed to be contaminated and one will be located in a clean area to serve as a background. Table 1 lists the analyses to be performed on the samples.

The surface soil sampling points are shown on Figure 2. Thee sampling points are as follows:

SS-CS-1: North of the L&N Railroad near the intersection of Vulcan Drive and McNally Drive.

SS-CS-2: South of the L&N Railroad near the intersection of Vulcan Drive and McNally Drive.

SS-CS-3: East of Trousdale Drive in front of Kabinart

SS-CS-4: A "sink" hole in front of Rose Dog Food Co. where surface drainage disappears - east of Trousdale Drive.

SS-CS-5: A low point which collects rainfall runoff located east of Trousdale Drive and south of Rose Dog Food Co.

SS-CS-6: A low point which collects rainfall runoff located east of the junction of Trousdale Drive and the L&N Railroad

SS-CS-7: A low point on the Croft Farm that collects rainfall runoff located east of Trousdale Drive.

SS-CS-8: A low point which collects rainfall runoff located west of Trousdale Drive and the L&N Railroad

SS-CS-9: As there are no discernible drainage ways on the west side of
SS-CS-10 Trousdale Drive and east of the L&N Railroad in the vicinity of
SS-CS-11 the Saad site, it is difficult to determine whether any con-
SS-CS-12 taminates are migrating onto the site via surface drainage. In an attempt to accomplish this, however, one composite soil sample will be collected from areas where it is apparent that rainwater flows onto the site. These points are not shown on Figure 2.

How can a well be considered "background" if it is downstream of the site?

Why no samples from Saad Area during drilling OPS

How were well sites selected - how does well with be drilled & why.

Figures (Fig do not indicate which well is which

NEED NORTH ARROWS ON BOTH FIGURES, TO AID IN INTERPRETATION OF THIS PARAGRAPH. WHEN YOU REFER TO "ONTO THIS SITE", ARE YOU REFERRING TO THE SAAD SITE, THE L&N RAILROAD SITE, OR THE CROFT FARM. IT WOULD HELP IF THE GENERAL AREA YOU ARE TALKING ABOUT

2. Personnel Requirements

This investigation, to include both drilling and sampling of the monitoring wells, will be conducted by Charles Wilson, Dan Harman, Roger Franklin and Chris Leggett.

3. Sample Container Requirements

Analysis	Container	Number*
Water, ext. organic	gallon, glass	16
Water, VOA	glass vial	16
Water, VOA - preserved	glass, vial	16
Water, metals	pint, glass	16
Water, cyanide	1/2 gallon, plastic	16
Soil, organic	quart, glass	30
Soil, VOA	4 oz., glass	30
Soil, metals	pint, plastic	30

*This number includes bottles for split samples and breakage.

4. Study Schedule

August 15, 1982 - travel to Nashville
August 16-26, 1982 - drill wells and sample
August 27, 1982 - return to Decatur

5. Logistics

The sampling team will operate out of the E&E step van.

6. Special Equipment

No special equipment will be required for this study.

7. Shipping Material

Standard shipping containers will be used for this study.

TABLE I

SAMPLE CODES AND ANALYTICAL REQUIREMENTS
SAAD OIL COMPANY
NASHVILLE, TN

SAMPLE CODES	TEMP	pH	COND	METALS	CYANIDE	VOA	EXT. ORGANICS
SS-MW-1	A	B	C	D	E	F	G
SS-MW-2	A	B	C	D	E	F	G
SS-MW-3	A	B	C	D	E	F	G
SS-MW-4	A	B	C	D	E	F	G
SS-MW-5	A	B	C	D	E	F	G
SS-MW-6	A	B	C	D	E	F	G
SS-MW-7	A	B	C	D	E	F	G
SS-CS-1				H	H	I	J
SS-CS-2				H	H	I	J
SS-CS-3				H	H	I	J
SS-CS-4				H	H	I	J
SS-CS-5				H	H	I	J
SS-CS-6				H	H	I	J
SS-CS-7				H	H	I	J
SS-CS-8				H	H	I	J
SS-CS-9				H	H	I	J
SS-CS-10				H	H	I	J
SS-CS-11				H	H	I	J
SS-CS-12				H	H	I	J

A - temperature; field measurement
B - pH; field measurement
C - conductivity; field measurement
D - pint glass bottles; HNO_3 to pH 2; ice
E - 1/2 gallon plastic; NaOH to pH 12; ice
F - glass vials (40 ml); ice
G - gallon glass bottles; ice
H - pint plastic; ice
I - 4 oz. glass; ice
J - quart glass; ice

SAAD OIL COMPANY
ESTIMATED RESOURCE REQUIREMENTS

1. SAMPLING REQUIREMENTS

Water Samples:

Organics Scan	Metals Scan	Cyanide
7	7	7

Soil Samples:

Organic Scan	Metals Scan	Cyanide
12	12	12

2. LABORATORY RESOURCE ESTIMATE

Contract Laboratories:

	Water Samples	Soil Samples	Total
Organics:	$4,200	$7,200	$11,400
Metals/CN	840	1,440	2,280
			$13,680

3. FIELD AND REPORTING RESOURCE ESTIMATES

	Man-Days	Cost (1)
Study Plan and Study Preparation	3	$ 720
Field Work and Sampling	40	9,600
Report Preparation	20	4,800
Shipping Samples		160
Travel		150
Motel (2)		1,200
Meals (3)		640
Subtotal		$17,270

4. EPA REPORT REVIEW: 1 man-day @ $240

5. EPA OVERVIEW: 5 man-days @ 240. = $1200

6. TOTAL ESTIMATED RESOURCES: $32,390 (4)

(1) Cost includes salary and estimated overhead for two persons to do sampling and related drilling tasks
(2) Motel cost estimated at $30 per day per person and ten nights
(3) $16 per day per person for meals
(4) Does not include cost of drilling wells as this is accomplished under another TDD